| Notice of Allowability | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/700,843 | LUKACSOVICH ET AL. | |
| | Examiner | Art Unit | |
| | Scott D. Priebe, Ph.D. | 1633 | |

***-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--***

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the amendment filed 10/13/05*.

2. ☒ The allowed claim(s) is/are *1-6,9-11,15,20,21 and 23*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia **such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of** each sheet. **Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

## EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jay Williams on behalf of Warren Cheek on 08 Nov. 2005. Applicant's representatives provided an electronic copy of the claims set forth below for incorporation into this Examiner's amendment.

The application has been amended as follows:

The complete listing of the claims has been replaced with the following:

**1. (Currently amended)** A vector for trapping an unknown gene of *Drosophila melanogaster*, which is a recombinant plasmid comprising a recombinant P-element, wherein the P-element comprises the following nucleotide sequences in this order:

an artificial consensus splicing acceptor site;

a synthetic stop/start sequence;

a promoterless reporter gene;

a heatshock promoter directed neomycin phosphotransferase gene; and

~~a~~ a mini-white gene under control of a white gene promoter and comprising a synthetic splicing donor site in place of a poly-A addition site.

**2. (Currently amended)** The vector of claim 1, wherein the recombinant plasmid is ~~made by inserting the heatshock promoter directed neomycin phosphotransferase gene into~~ based on pCasper3.

**3. (Previously presented)** The vector of claim 1, wherein the promoterless reporter gene is a Gal4 gene.

**4. (Previously presented)** A vector for trapping an unknown gene of *Drosophila melanogaster*, which vector has the nucleotide sequence of SEQ ID No. 1.

**5. (Previously presented)** The vector of claim 1, wherein the promoterless reporter gene is a Gal4 DNA binding domain-P53 fusion gene.

**6. (Previously presented)** The vector of claim 1, wherein the promoterless reporter gene is a Gal4-firefly luciferase fusion gene.

**7-8. (Cancelled)**

**9. (Currently amended)** A vector made by inserting a heatshock promoter directed Gal4 activator domain-large T antigen fusion gene into the polycloning site of ~~a~~ pCasperhs.

**10. (Currently amended)** A method for trapping an unknown gene of *Drosophila melanogaster* by using a vector which is a recombinant plasmid comprising a recombinant P-element, wherein the P-element comprises the following nucleotide sequences in this order:

an artificial consensus splicing acceptor site;

a synthetic stop/start sequence;

a promoterless Gal4 reporter gene;

a heatshock promoter directed neomycin phosphotransferase gene; and

a mini-white gene under control of a white gene promoter and comprising a synthetic splicing donor site in place of a poly-A addition site,

which method comprises the steps of:

(a) introducing the vector into the genome of a white minus fly;

(b) selecting primary transformants containing the vector;

(c) crossing the primary transformants with a transposase source fly strain to force the P-element to jump into other locations;

(d) selecting secondary transformants by selecting flies produced from the cross of step (c) having strong eye color,

(e) crossing the secondary transformants with ~~UAS~~ a Gal4-UAS (Upstream Activator Sequence)-luciferase harboring fly strain and measuring expression of the promoterless Gal4 reporter gene in the secondary transformants; and

(f) identifying the trapped gene by cloning and sequencing cDNA comprising the Gal4 gene and cDNA comprising the mini-white gene.

**11. (Currently amended)** The method according to claim 10, wherein the recombinant plasmid is ~~made by inserting the heatshock promoter directed neomycin phosphotransferase gene into~~ based on pCasper3.

**12-14. (Cancelled)**

**15. (Currently amended)** The method according to claim 10, wherein in ~~the~~ step (b) ~~the~~ primary transformants resistant to G418 are selected.

**16-19. (Cancelled)**

**20. (Currently amended)** A method for trapping an unknown gene of *Drosophila melanogaster* by using a vector A and a vector B;

wherein vector A is a recombinant plasmid comprising a recombinant P-element, wherein the P-element comprises the following nucleotide sequences in this order:

an artificial consensus splicing acceptor site;

a synthetic stop/start sequence;

a promoterless Ga14 DNA binding domain-P53 fusion gene as a reporter gene;

a heatshock promoter directed neomycin phosphotransferase gene; and

a mini-white gene under control of a white gene promoter and comprising a synthetic splicing donor site in place of a poly-A addition site, and

vector B is derived from pCasperhs by inserting a heatshock promoter directed ~~to~~ Ga14 activator domain-large T antigen fusion gene within the polycloning site of ~~the~~ pCasperhs,

which method comprises the steps of:

(a) introducing each of the vectors A and B into the genomes of separate white minus flies;

(b) selecting primary transformants for the vector A which are resistant to G418 and selecting primary transformants for the vector B which have an eye color other than white;

(c) crossing the primary transformants for the vector A with a transposase source fly strain to force the P-element to jump into other locations;

(d) selecting secondary transformants for the vector A by selecting flies produced by the cross of step (c) that have strong eye color;

(e) crossing the secondary transformants with the primary transformants for the vector B to obtain flies harboring the P-element and vector B;

(f) crossing the flies obtained in the step (e) with ~~an UAS-luciferase~~ a Gal4-UAS-luciferase harboring fly strain and measuring luciferase expression of the resultant flies after a heatshock treatment; and

(g) identifying the trapped gene by cloning and sequencing cDNA comprising the reporter gene and cDNA comprising the mini-white gene.

**21. (Currently amended)** The method according to claim 20, wherein the vector A is ~~derived from~~ based on pCasper3.

**22. (Cancelled)**

**23. (Currently amended)** A method for trapping an unknown gene of *Drosophila melanogaster* by using a vector which is a recombinant plasmid comprising a recombinant P-element, wherein the P-element comprises the following nucleotide sequences in this order:

an artificial consensus splicing acceptor site;

a synthetic stop/start sequence;

a promoterless Gal4-firefly luciferase fusion gene as a reporter gene;

a heatshock promoter directed neomycin phosphotransferase gene; and

a mini-white gene under control of a white gene promoter and comprising a synthetic splicing donor site in place of a poly-A addition site,

which method comprises the steps of:

(a) introducing the vector into the genome of a white minus fly;

(b) selecting primary transformants containing the vector;

(c) crossing the primary transformants with a transposase source fly strain to force the P-element to jump into other locations;

(d) selecting secondary transformants by selecting flies produced from the cross of step (c) having strong eye color;

(e) measuring expression of Gal4-firefly luciferase fusion gene in the secondary transformants without crossing the secondary transformants with ~~UAS-luciferase~~ a Ga14-UAS-luciferase harboring strain; and

(f) identifying the trapped gene by cloning and sequencing cDNA comprising the ~~Gal4~~ reporter gene and cDNA comprising the mini-white gene.

The following is an examiner's statement of reasons for allowance:

The amendments were required to correct informalities, eliminate duplicate claims, and to eliminate new matter (claims 2 and 11). The phrase "based on pCasper3" (claims 2, 11, and 21) would be understood by one of skill in the vector art to mean that pCasper3 is used as the base vector to which the other elements are added (or concomitantly deleted in the case of the mini-white polyA sequence of pCasper3) to arrive at the final vector. This language is supported by the original specification at page 6, lines 14-16, for example.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott D. Priebe, Ph.D. whose telephone number is (571) 272-0733. The examiner can normally be reached on M-F, 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Nguyen can be reached on (571) 272-0731. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Scott D. Priebe

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